

Application No.: 10/724,111

REMARKS

Applicants have carefully considered the September 21, 2005 non-final Office Action, and the amendments above together with the comments that follow are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance. Claims 1-20 are pending in this application. In response to the Office Action dated September 21, 2005, claims 1, 2, 3 and 5 have been amended. Care has been exercised to avoid the introduction of new matter. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, the depicted embodiments and related discussion thereof in the written description of the specification.

In response to the Drawing objection, Applicants respectfully submit that replacement drawing sheets (included in Appendix A) were previously submitted in the Amendment on November 16, 2004. In the November 16, 2004 Amendment, each of Figs. 1A-1D and 2A-2D was amended by providing the legend --PRIOR ART --as suggested by the Examiner. Accordingly, withdrawal of the drawing objection is solicited.

The specification was objected to as allegedly failing to provide proper antecedent basis for the claimed subject matter. The Examiner asserted that the claim term "connection plug" is supported by the description of the specification at page 7, lines 11-14 and page 9, lines 19-22. Accordingly, withdrawal of the drawing objection is solicited.

With respect to numbered paragraph 4 of the Office action, Applicants have reviewed the specification for the presence of minor errors, but no changes are believed necessary at the present time.

Application No.: 10/724,111

Claims 2, 5-6, 8, 11-12, 14 and 17-18 were rejected under 35 U.S.C. § 112, second paragraph. Applicants respectfully traverse the rejection in view of the foregoing amendments to independent claims 2 and 5. Applicants submit that the foregoing amendments address the Examiner's concerns as stated in numbered paragraphs 6 and 7. Accordingly, one having ordinary skill in the art would not have difficulty understanding the scope of the presently claimed invention, particularly when reasonably interpreted in light of the supporting specification. Therefore, it is respectfully submitted that the imposed rejection of claims 2, 5-6, 8, 11-12, 14 and 17-18 under 35 U.S.C. § 112, second paragraph is not legally viable and hence, Applicants solicit withdrawal thereof.

Claims 1-3 and 5 were rejected under 35 U.S.C. § 102(e) as being anticipated over Stamper et al. (U.S. Pat. No. 6,838,355, hereinafter "Stamper"). Applicants respectfully traverse.

Claims 1-2 were rejected under 35 U.S.C. § 102(e) as being anticipated over Seta et al. (U.S. Pat. No. 6,605,542, hereinafter "Seta"). Applicants respectfully traverse.

Claims 1-6 were rejected under 35 U.S.C. § 102(e) as being anticipated over You et al. (U.S. Pat. No. 6,756,672, hereinafter "You"). Applicants respectfully traverse.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the identical disclosure in a single reference of each element of a claimed invention, such that the identically claimed invention is placed into the possession of one having ordinary skill in the art. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994). Moreover, in imposing the rejection under 35 U.S.C. § 102, the Examiner is required to specifically identify wherein an applied reference is perceived to identically disclose each feature of a claimed invention. *In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993);

Application No.: 10/724,111

Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984). That burden has not been discharged. Moreover, there are significant differences between the claimed inventions and the method disclosed by either Stamper, Seta or You that would preclude the factual determination that Stamper, Seta or You identically describes the claimed inventions within the meaning of 35 U.S.C. § 102.

Each of independent claims 1, 2, 3 and 5, as amended, requires that a two-step chemical mechanical polishing (CMP), which includes the process of removing a part of a normal taper formed in an upper part of the trench, enabling a barrier metal film to be provided before a metal film is formed, and (1) to be provided between a metal film and an insulating film or (2) between a metal film and a sacrificial film. In the first step of CMP, the barrier metal film is used as a CMP stopper.

In contrast, it appears that You fails to describe a two-step CMP. While You describes a barrier layer (119, 120), CMP in You is stopped by a capping layer 113 and not by a barrier layer (see Fig. 5L) as required in each of independent claims 1, 2, 3 and 5. Moreover, Seta and Stamper do not explicitly teach a barrier metal film and as such, neither Seta nor Stamper discloses or remotely suggests stopping the first step of CMP by using a barrier metal film.

As described above, each of the pending independent claims requires, inter alia, that the first step of CMP is stopped on the surface of a barrier metal film. None of the references discloses or suggests this feature. Accordingly, the rejections under 35 U.S.C. § 102(e) are not legally viable since neither of the applied references identically disclose each feature of the claimed inventions. Reconsideration and withdrawal of the rejections 35 U.S.C. § 102 are respectfully solicited.

Application No.: 10/724,111

Dependent claims 7-9, 11, 13-15, 17 and 19-20 were rejected under 35 U.S.C. § 103 for lack of obviousness predicated upon Stamper in view of Sameshima et al. (U.S. Pat. App. Pub. 2003/0203624, hereinafter "Sameshima"). Applicants respectfully traverse.

Dependent claims 7-8, 13-14 and 19-20 were rejected under 35 U.S.C. § 103 for lack of obviousness predicated upon Seta in view of Sameshima. Applicants respectfully traverse.

Dependent claims 7-20 were rejected under 35 U.S.C. § 103 for lack of obviousness predicated upon You in view of Sameshima. Applicants respectfully traverse.

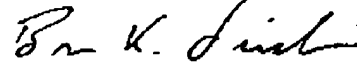
Dependent claims 7-20 are free from the applied art in view of their dependency from their respective independent claims. Applicants incorporate herein the arguments previously advanced in traversal of the rejection of claims as under 35 U.S.C. § 102(e) predicated upon Stamper, Seta or You. The secondary reference to Sameshima does not cure the argued deficiencies of the primary references. Thus, even if the applied references are combined as suggested by the Examiner, and Applicants do not agree that the requisite realistic motivation has been established, the claimed invention will not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103 are respectfully solicited.

Application No.: 10/724,111

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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